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LOOK WHAT'S BACK! INSTITUTIONAL COMPLEXITY, REVERSIBILITY AND THE KNOTTING OF LOGICS

Davide Nicolini¹

IKON, Warwick Business School
University of Warwick
Coventry CV4 7AL, UK
Phone: +44 (0)24 7652 4282
Email: davide.nicolini@wbs.ac.uk

Giuseppe Delmestri

WU - Vienna University of Economics and Business
Institute for Change Management & Management Development
Welthandelsplatz 1
1020 Vienna, Austria
Phone : +43 1 31336 4477
Email: giuseppe.delmestri@wu.ac.at

Elizabeth Goodrick

College of Business
Florida Atlantic University
Davie, FL 33325
Phone: +1 954 236 1274
Email: goodrick@fau.edu

Trish Reay

Alberta School of Business
University of Alberta
Edmonton, T6G 2R6 Canada
Phone: +1 780 492 4246
Email: trish.reay@ualberta.ca

Kajsa Lindberg

Gothenburg Research Institute
Göteborg University
B 600, SE 405 30 Gothenburg, Sweden
Phone : +46 31 786 4484
Email : kajsa.Lindberg@gri.gu.se

Petra Adolfsson

Gothenburg Research Institute
Göteborg University
B 600, SE 405 30 Gothenburg, Sweden
Phone : +46 31 786 5616
Email : petra.adolfsson@gri.gu.se

¹ Corresponding author

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ABSTRACT

Through a comparative historical study of community pharmacy in the UK, Italy, Sweden and the USA, we examine what happens to institutional arrangements designed to resolve ongoing conflicts between institutional logics over extended periods of time. We find that institutional arrangements can reflect the heterogeneity of multiple logics without resulting in hybridization or dominance. Because logics remain active, similar conflicts can reappear multiple times. We find that the durability of the configurations of competing logics reflects the characteristics of the politics in which fields are embedded. The dominance of any societal institutional order leads to more stable field level arrangements. We suggest that the metaphor of institutional knots and the related image of institutional knotting are useful to capture aspects of this dynamic and to foreground the discursive and material work which allows multiple logics to co-exist in local arrangements with variable durability.

“Professionalism is destroyed when unqualified laymen, driven solely by the profit motive, acquire the ownership and the control of professional enterprise. The demands of the owner may be expected to clash with the conscience of the professional” (Petition by Pharmaceutical Society of Great Britain, 1878).

“Pharmacists are free professionals and such they must remain. It is our duty to defend this occupation in order to avoid the pharmacy transforming into a drugstore! [Any new regulation should avoid pharmacy] becoming a dishonorable trade” (Member of Italian Parliament, 1965).

These two quotes are excerpted from legislative discussions in Britain and Italy regarding the ongoing societal concern about whether pharmacists should hold the exclusive right to own a pharmacy, or not. Both quotes show similar arguments in defense of the right of exclusivity and self-control of the pharmacist profession. Yet the claims were raised in two different countries, in different situations (court debate vs. parliament debate), almost 90 years apart, and with completely different outcomes. The British court ruling allowed for the separation of ownership and profession, paving the way for pharmacy multiples (known as chain stores in North America). Conversely, the Italian law prevented ownership by anyone except a pharmacist and strictly disallowed the existence of chains, presenting them as dishonorable (see Law 475/1968 and related parliamentary debates). Different institutional logics, i.e. sets of assumptions, values and beliefs connected to meaningful practices and material processes (Thornton et al., 2012) were clearly at play in these two events: they clashed, and their conflict came to be pacified in distinct ways.

Even though legislation was implemented in both Britain and Italy to resolve disagreements about pharmacy control and ownership, the same issues resurfaced and were repeatedly addressed. In Britain, the same argument for professionalism re-emerged in a 1968 court case with the Pharmaceutical Society trying unsuccessfully to curb the diversification of

chains' retail operations. In Italy, the same argument for professionalism was defeated in 1888 in parliament by advocates of a free market economy, to be resurrected twenty years later in regulations that re-transformed the pharmacy into a public-professional compromise. Similarly, in Sweden clashes over pharmacy ownership and control were addressed and resolved multiple times. In contrast, in the USA the issue was settled at the beginning of the XX century, rarely to surface again.

How can we explain these events from an institutional logics perspective? Established theory suggests that institutional logics coexist and compete within a field (e.g., Greenwood et al., 2011), but there has been little attention to how conflicts among the competing logics are resolved. We know that “uneasy truces” among logics can exist (Reay and Hinings, 2009) and that oscillations in the relative importance of logics can occur (Dunn and Jones, 2010). However, little or no research exists which investigates why or how the same conflicts between logics erupt over and over again in a field, as was evident in our study. We address this theoretical gap concerning the durability of institutional arrangements by employing a comparative case study of community pharmacy in the UK, Italy, Sweden and the USA. We explicate how pharmacy was structured according to conflicting logics, and how the same conflicts continued to emerge, despite arrangements in place to resolve them. We find that although the tensions among conflicting logics can be temporarily resolved within specific arrangements that allow for institutional compromise, this does not lead to hybridization, dilution or take over as Glynn and Lounsbury (2005) and Thornton (2004) found. In mature fields like community pharmacy, institutional logics can remain distinct for extended periods of time. We introduce the metaphor of institutional knots to identify temporary forms of institutional compromise in which logics are woven together while remaining clearly identifiable. Exploiting the heuristic power of the

metaphor of knot, we also investigate why certain arrangements are more durable than others. In contrast to previous studies, we conclude that such durability is the result both of local dynamics and the characteristics of national level arrangements and their anchoring to global institutional streams.

INSTITUTIONAL LOGICS

The concept of institutional logics has been used to account for how the conduct of social actors reflects broader belief systems. Institutional logics are described as ‘ways of ordering reality’ (Friedland and Alford, 1991: 243) and ‘the socially constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality’ (Thornton and Ocasio, 2008: 804). Institutional logics shape and constrain conduct by specifying which goals or values should be pursued within a given domain, and what actions, interactions, or interpretations are appropriate for the pursuit (Thornton, et al., 2012).

Early work tended to frame the relationship between conflicting logics in terms of domination and succession where conflicting logics co-exist only until the winning dominant logic becomes prevalent in the field (Thornton and Ocasio, 1999; Scott et al., 2000). Scholars later introduced the idea that conflicting logics can co-exist in the same field for longer periods of time and focused on the conditions supporting this long term persistence. For example, Marquis and Lounsbury (2007) show how competing logics result in industry segmentation and a corresponding variation in practices; Bjerregaard and Jonasson (2013) describe a similar form of selective segregation of competing logics at the firm level. Other literature suggests that the conflict between alternative logics can remain unresolved. Greenwood et al. (2011) labelled a

situation where incompatible logics co-exist for a lengthy period of time in a truce as “enduring institutional complexity” (2011: 323). Truces allow for a settlement between conflicting logics (Meyer and Hammerschmid, 2006) and the establishment of new forms of organization (Rao et al., 2000). They explicate how meaningful social action occurs when different actors are guided by competing logics as in the case of physicians and managers in health care (Reay and Hinings, 2005; 2009).

The idea of truce introduces the notion that arrangements can be transient and that ‘armistices’ between conflicting logics can be reworked. The issue has been discussed by authors such as Van Gestel and Hillebrand (2011) and Dunn and Jones (2010). The latter examined the long term co-existence of two competing logics (care versus science) in the field of medical education from 1910 to 2005. The repeated oscillation between the two competing field level logics suggests the same clash is repeatedly solved and re-solved over time. While these studies suggest that truces can be temporary, current conceptualizations do not explicitly theorize about the durability of arrangements, their potential reversibility, and the ensuing restoration of past arrangements.

Current studies also fail to shed light on whether the existence of conflicting logics is a transitional phase that eventually leads to the emergence of hybrids (e.g., Rao et al., 2005) or if it is stable. The problem remains unresolved because the longest duration of existing studies of institutional multiplicity barely exceed one generation e.g., Vasudeva et al.(2014) spanned 29 years while Gestel and Hillebrand (2011) spanned 31.

While Friedland and Alford’s (1991) original theory highlighted the relationship between society, organizational fields and actors, the link between the societal inter-institutional system and the field has been under-researched (notable exceptions: Daudigeos et al. 2013; Vasudeva et

al. 2013). Research has concentrated at the field level, and national politics have usually been cited only in passing to contextualize the studies. At the same time little empirical work exists on how incompatible prescriptions from multiple societal orders generate field level institutional complexity (Besharov and Smith, 2014; Raynard and Greenwood, 2014).

In this paper, we address these gaps using an inductive historical study of community pharmacy, with two questions related to institutional complexity: (1) *What happens to field level arrangements of institutional logics over time?* (2) *How can we explain field level variation in the durability of arrangements among competing logics?*

By taking an historical approach, we are able to observe how the same issues arise multiple times in four different countries in an institutional field that is inherently at the cross roads of conflicting logics: community pharmacy. We follow DiMaggio and Powell in defining a field as being composed of “those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products” (1983:148). Community pharmacy is an excellent field to investigate. First it represents an ‘in between industry’ sitting at the intersection of different world views and some of the ‘grand dichotomies’ of Western thought (Bobbio, 1989, quoted by Weintraub, 1997:1). Thus it allows us to study the interface among logics and the durability of institutional resolutions to conflicting logics. Second, the history of community pharmacy spans several hundred years and detailed accounts exist of events in the last two centuries (Anderson, 2005). This allows us to examine the phenomenon over a period that comprises major shifts in the nature of national and global politics (Jepperson, 2000; 2002). Third, community pharmacy allows us to investigate the co-existence of multiple logics rather than two only as in most previous historical studies. Finally, by focusing on community

pharmacy we can investigate the durability of institutional arrangements in different national contexts characterized by a different arrangement of the same institutional logics (e.g., market, state, corporate or professionalism) at the inter-institutional level of society.

METHODOLOGY

We conducted a comparative case study of community pharmacy in the UK, Italy, Sweden and the USA. Community pharmacy involves the preparation and dispensing of medications in retail establishments as opposed to hospital settings. Thus, community pharmacy is partly about selling a product, partly about professional work, and partly about organizing service delivery (Goodrick and Reay, 2011). Our choice of countries reflected our desire to capture variation in the embodiment of different logics in pharmacy: the USA and UK embraced a corporate model, Italy adopted a professional logic, and Sweden developed a state control model. We focused in particular on the historically contentious topic of ownership and control over dispensing activities in pharmacy outlets (i.e., who can sell medicines and what type).

The design of the research was based on process tracing (George and Bennett, 2005)- an approach that generates explanatory models based on a limited number of historical cases. We proceeded as follows. In each country we collected background information on pharmacy through a combination of interviews and historical document analysis, building an ‘event history database’ for each country related to ownership and control of pharmacies (Van de Ven and Poole, 1990)². We identified events related to disputes over: 1) who could own a pharmacy, 2)

² We conducted 34 interviews-7 with practicing pharmacists, 4 with professional association members, 14 industry and government officials, and 9 academics. We also relied on

what could be sold in a pharmacy, and 3) who had the right to sell it. We then met and worked together to identify ‘critical events’ during the past 150-200 years in each country relevant to the topics under consideration. Next, each of the identified critical events was examined in depth and described using a common set of headlines, focusing on recovering ‘who did what and when’. We also identified which institutional logics were operating at the time in each country. For this purpose we built on Goodrick and Reay (2011) who argued that institutional arrangements in pharmacy have historically reflected a combination of four different logics which can be articulated in terms of ideal types: professional, market, corporate, and state.

Following Thornton et al. (2012), we evaluated logics in relation to each of the ideal worlds (logics). In the ideal type professional world, specialized knowledge workers, by right of the superior knowledge and altruistic belief system, make decisions for others. This means that ownership of pharmacy outlets is confined to members of the profession who dispense medications and determine what should be sold. In the consumerist, market-based world, actors operate on the principle of free trade and maximization of profit where consumers’ preference and choice are paramount. Pharmacies are thus understood as commercial ventures. In the corporate world of organized bureaucracies, administrators of organizations design structures and systems that ensure predictability and efficiency and employ people to carry out tasks. According to this logic, pharmacies are mainly seen as formal hierarchical organizations where managers, not professionals, have ultimate authority. Finally, in the ideal state-controlled world, the state intervenes directly in public affairs, taking direct responsibility for public health;

parliamentary debates, court decisions, laws, government documents, pharmacy journals, pharmacy history books, and media accounts.

pharmacies are thus considered as public health establishments. Table 1 summarizes the ideal type institutional logics and the associated ownership and control characteristics of pharmacy practice.

[Table 1 about here]

We analyzed our initial results during two intensive theory building workshops. During the first meeting, we examined critical events, details about relevant incidents and assessments of the institutional logics operating in each country. The critical events were assessed according to impact and temporal leverage, i.e., impact of the critical event relative to its duration (see Capoccia and Kelemen, 2007). In the second session, we employed visual methods for building theory from multiple case studies. These included a time-ordered matrix, a content analytic table and a scatter plot (Miles and Huberman, 1994). We worked inductively between data and interpretation until we could identify clear recurring patterns in the data. After formulating our initial explanatory conjectures, we chose particularly illustrative cases for in-depth analyses of the primary sources — the texts — to build a ‘discursive-event history database’ (Maguire, 2004) capturing ‘who said what, and when’. We used the results of this second round of analysis to further refine and delimit the emerging conjectures and interpretations and to pursue analytic generalization from our findings (Eisenhardt and Graebner, 2007).

Tables 2-5 present each event related to ownership and control of pharmacy by country. For each event, we provide a brief description, the logics involved, and our interpretation of how logics were combined. Our tables indicate that in each country the issue of ownership and control of pharmacy outlets was provisionally resolved multiple times over the past two centuries. Figure 1 provides a visual representation.

[Tables 2-5 about here; Figure 1 about here]

In the next section, we describe and analyze our findings over time and for each country, building our argument in an inductive and incremental way. Given space constraints, we developed an analytic narrative for particularly apt instances that illustrate our arguments. We then summarize our analysis in the discussion.

MULTIPLE LOGICS IN COMMUNITY PHARMACY

UK: Combining professional, corporate and market logics

At the time of writing, in the UK ownership of a pharmacy can be by pharmacists or any other collective subjects (e.g., corporations), provided that a licensed pharmacist supervises the dispensing of medicines. This ownership principle has been repeatedly confirmed through a number of legal challenges in the last two centuries. We examine two important historical developments that illustrate how the question of ownership was addressed: (1) the establishment of corporate pharmacies in the 1880s, (2) the Dickson case, circa 1968.

In the 1830s, attempting to resolve the long-standing rivalry between doctors, apothecaries ('doctors of the poor' who prepared and dispensed medications) and chemists (shop owners selling drugs and remedies), the British government began to regulate the profession of medicine and dispensing. While chemists had no desire to become 'professional men' and 'wanted to be left alone to carry on making money' (Holloway, 1991:108) they eventually agreed to form the Pharmaceutical Society of Great Britain to protect their business interests and increase their respectability. The introduction of the Pharmacy Act in 1868 restricted the 'sale of poisons' to 'registered individuals' who owned and operated an independent shop.

During the 1870s, however, a number of limited companies started selling medicines using a loophole in the existing 'Widow Act'. They claimed that on the death of a qualified pharmacist, the 'qualification vested in his person' could be passed to his widow or children, provided a registered pharmacist was an employee. This effectively broke the principle of pharmacist ownership, and opened up the possibility for large dealers, co-operatives and supermarkets to enter the market and 'unfairly' compete based on scale efficiencies.

The Pharmaceutical Society challenged these actions in court. In 1878, they brought action against a retail establishment owned by a non-professional but run by a licensed chemist. Consequent legal wrangling led to a decision that it was not unlawful for a qualified person to sell 'poisons' on behalf of a company, provided that such person was suitably qualified. This was despite the Pharmaceutical Society's claims that "professionalism is destroyed when unqualified laymen, driven solely by the profit motive, acquire the ownership and the control of professional enterprise." (Holloway, 1991: 274). Jesse Boots was one of the first to take advantage of this ruling and began to employ chemists to open satellite stores. By 1883 Boots Cash Chemists had opened 10 branches; by 1906, 329. The trend continued so that by 2000, almost 60% of pharmacy outlets in the UK were owned by small multiples and large chains (Anderson, 2005).

Analysis

The narratives above provide excellent examples of how different institutional logics are made to co-exist. The Pharmaceutical Society was itself the result of a compromise that combined the professional and market logics. In 1880, large corporations also wanted to combine these two existing logics to capitalize on the employment of skilled administrators to facilitate predictability, efficiency and prosperity. Thus, these new economic actors (companies and co-

operatives) elevated the salience of the corporate logic within the field of pharmacy. However, their activities did not lead to the replacement of professionalism and personal ownership; on the contrary, all three logics (professional, market and corporate) were made to co-exist thus creating space for corporations, co-operatives and pharmacist owners. The court case illustrates how the logics could be legally combined; it also illustrates how such work is often carried out through discourse. The Pharmaceutical Society continued to resist the extension of professionalism to a collective actor. In allowing this contested interpretation, the court declared that in certain cases corporations can provide professional services through their members

UK: Contesting the truce

Next we compare the previous case with another famous controversy -- the Dickson case. This case arose from the ongoing conflict between trade and profession that drove the Pharmaceutical Society to argue against commercial development that could negatively affect the professional standing of its members (Anderson 2002; Taylor and Harding, 2001). In the early 1960s, the society actively tried to restrict the location of pharmacy activities by revising its professional code of conduct. They proposed physically distinct premises for new pharmacies and restricted all pharmacies to the sale of pharmaceutical, professional and 'traditional' chemist's goods (primarily toiletries, cosmetics, and photographic items). A motion, strongly supported by small owners, was put forward in 1965. Robert Dickson, then retail director of the large chain Boots the Chemist (see above), sought an injunction against the motion on the grounds that it was outside the power of the society and could constitute an unlawful restriction of trade. The resulting court case was followed by an appeal where the Society argued:

It is claimed, I think rightly, that pharmacy is a profession [...] So most pharmacists act in a dual capacity, combining retail trading with their professional work. ...The present policy

of the council of the society is to restrict trading activities so far as is economically practicable as well as to ensure that such activities are carried on in a manner compatible with the professional character of pharmacists. (House of Lords, 1970 in Applebe and Wingfield, 2005: 392).

The court ruled that the Pharmaceutical Society had no power to control or restrict the trading of certain products in pharmacies ‘which did not interfere with the proper performance of professional pharmaceutical duties’ thus restricting the Society to issues of professionalism (Applebe and Wingfield, 2005: 393).

Analysis

In the above controversy, the Society tried to contest the institutional arrangement established in 1880. This is significant because it appears that these logics co-existed for almost 80 years although not necessarily in harmony; individual proprietors, large chains, and the Society continued to argue, although these minor skirmishes did not challenge the existing armistice. Unlike the previous case, we observe material as well as a discursive activity. While in 1880 the Society tried to act on the meaning of ‘professional’ person, here the target was the material constitution of pharmacy. The Society tried to undo the existing arrangement by spatially segregating the different logics; the pharmacy as a professional outlet needed to be separated from the ‘commercial enterprise’. By rejecting the motion, the Court effectively ratified the material co-existence of the three logics that were now discursively and materially ‘joined at the hip’.

In the following sections we compare the UK experience with Italy and then the USA and Sweden. The comparison between cases allows us to shed light on the durability and nature of institutional multiplicity.

Italy: From professionalism to commerce and back

Pharmacy in Italy is guided by Napoleon's Regulation (1806) that conceived pharmacies as public health agencies and imposed strict regulation with regards to their ownership and operation. Although geographic variations consequently arose, the 'one pharmacist-one pharmacy model' prevailed. In 1888, a new law was introduced to allow unrestricted establishment of pharmacies, except for the requirement of an approved pharmacist as director of each shop. This clashed with existing law allowing many pharmacists to sell or transfer the pharmacy to their children. The discourse supported the free market, and public health -- underlining the State's responsibility to assure hygienic and healthy conditions.

The 1888 law produced a sharp increase in the number of pharmacies and the creation of small chains. However, problems arose due to the sale of pharmaceuticals by *droghieri*, owners of general stores traditionally selling sweets, soaps, flowers and oils. As a countermove, pharmacists started to sell all sorts of other goods. To address the blurring of commerce and profession the government issued a regulation in 1901, restricting pharmacies to running a *drogheria* only if the premises were clearly separated from the actual place where medicines were dispensed. The law had limited effect and pharmacies continued to sell a wide variety of products, undermining the professional image of the pharmacist.

In response, the government established a mandatory professional association that identified legally approved pharmacists (those who could prepare and dispense medications). In 1913, the government yielded to pressure from pharmacists and overturned the 1888 law, returning to the old regime of 'one pharmacy- one pharmacist'. Owning a pharmacy was confirmed as a personal non-tradable concession that could be obtained through public

competition and expired only upon death or retirement. Licensed pharmacists could own only one pharmacy. This model was named the ‘Mediterranean model’ of pharmacy and heralded as a victory of professionalism over commerce. The dominant argument proponents used was that pharmacies should provide a highly professionalized service that protects and benefits the users.

Analysis

Similar to the UK case, the 1888 Italian law attempted to combine the professional and market logics, although the public health concern (state logic) was also strongly present. Similar to the UK, the pharmacists resisted, claiming that the new organizational form of pharmacies would affect the ‘purity’ of their professional mission to the detriment of public health. Also similar to the UK case, multiple logics remained active throughout the period. Instead of a new dominant logic defeating and substituting for the previous one, several logics continued to co-exist, albeit not in a situation of harmony. The market logic did not eradicate those of professionalism or the state; instead the logics remained in tension. The Italian case also shows that such arrangements are potentially reversible. In the course of two decades, the logics of the market, state and professionalism were joined and separated. As we discuss below, this introduces the idea that ‘restoration’ and turning back the clock are at times a possibility in institutional change, although such a possibility has seldom been considered.

Italy: The same Issues Return

In Italy, the very issues addressed at the end of the 1800s reappeared in the early 2000s using the same types of arguments and rhetoric. Beginning in the late 1990s, different Italian governments cautiously attempted to liberalize the sale of drugs. For example, pharmacies could

compete on price with regards to over-the-counter (OTC) medicines. These innovations were strongly resisted by the national association of pharmacists, all of whom were pharmacy owners.

In 2005, the EU challenged the Italian government, claiming that the medicine market was in breach of the right of establishment and free movement of capital. The Italian government responded with a further liberalization of non-prescription drug sales outside pharmacies. The new law allowed for specialized shops called *parafarmacia* and ‘drug corners’ in large supermarkets where OTC remedies (but not prescription drugs) could be sold in the presence of a pharmacist.

As before, the arrangement was soon disputed. In 2009, after a strong lobbying effort by the pharmacist owners, a new law was proposed to completely liberalize the sale of OTC drugs -- prescription drugs would be confined to traditional pharmacies, and OTC drugs could be sold in all retail establishments, undermining the viability of parafarmacias. This radical measure was not approved. Instead, the government allowed traditional pharmacies to provide new services as part of the National Health Service (from health promotion to carrying out tests), a move that reinforced traditional pharmacies as medical and public health establishments. At the same time, the new parafarmacias were prevented from using logos that could be confused with that of traditional pharmacies, so that people could easily identify ‘real pharmacies.’

Analysis

This new chapter of Italian pharmacy ownership confirms some of our previous observations and adds a few new interesting elements. First, the debate in the early 20th century is strikingly similar to that which took place a century earlier; the same issues keep returning. In 2006, the government again tried to combine the professional, market and state logics. Second,

as in previous cases, the solution was strongly resisted by one of the groups, indicating again that institutional logics are often associated with organized interests. In this Italian case, symbolic strategies were used in addition to discursive and material ones. Purity was preserved by materially and symbolically decoupling the logics; ‘parafarmacias’ were kept distinct from ‘real pharmacies’ discursively (by their name), location, and even their logos. Finally, the conflict between logics in the field reflects a broader clash of politics in the country (Jepperson, 2002). The dispute over pharmacy was part of a government attempt to debunk entrenched privileges and introduce elements of marketization into Italian society. In this case, the EU acted as a representative and promoter of the market logic; its influence shifted the balance of forces in the field, encouraging conflict to emerge.

USA and Sweden: A Pattern Emerging

In the USA, the problem of ownership of pharmacies was resolved through legislation in individual states and through rulings of the Supreme Court. Until the 1920s, there was no restriction on ownership of pharmacies. The first state to restrict ownership to registered pharmacists was New York in 1922; this was to prevent pharmacies from selling intoxicating liquors, thus circumventing the Volstead Act (‘prohibition’).

A critical event impacting pharmacy ownership took place in 1927 when Pennsylvania passed a law supported by organized pharmacists to prevent chain drug stores from increasing. The law required all new drug stores to be owned either by a registered pharmacist or a corporation in which all stockholders were pharmacists. Similar to the New York law, it was based on concerns regarding public health, arguing that professional managers could be unable to meet legal responsibilities because of requirements to obey nonprofessional owners (Kremers et

al., 1963: 274). In 1928, this law was overturned by the Supreme Court because ‘mere ownership in a corporation, owning and operation of a drug store, can have no real or substantial relation to the public health; and that the act in question creates an unreasonable and unnecessary restriction upon private business.’ This Supreme Court decision eliminated legal constraints on chains owning pharmacies.

The issue of pharmacy ownership was debated again in 1964. The U.S. Senate Anti-trust subcommittee held hearings on the issue of physician owned pharmacies. While no federal legislation was enacted, a number of states passed laws championed by organized pharmacy restricting physician ownership of pharmacies. The most restrictive was in North Dakota where ownership and operation of pharmacies was limited to licensed pharmacists or corporations in which at least two pharmacists were directors. In 1973, the U.S. Supreme Court overturned its earlier 1928 decision on the rights of states to limit the free market, arguing that ‘the State was well within its authority to legislate against what it found to be injurious practices.’ This overturn had little impact outside of North Dakota, where ownership of pharmacies remains restricted to pharmacists.

Swedish pharmacies were corporately owned until very recently, but the story, is strikingly different from the USA. From 1971 to 2010, Swedish pharmacies were owned by a State-owned large corporation. Before this time, pharmacists retained a monopoly to sell pharmaceuticals through a system of personal charters with the king. In 1913, a new distribution system for pharmaceuticals was discussed; three alternatives were proposed: an open market system with no government involvement, a system of personal charters, or a nationalized system under government ownership (Öberg, 2003). Arguments favouring nationalization were focused on guaranteeing enough pharmacies were available to meet public demand, even in rural areas. In

contrast, most pharmacy owners actively supported retaining the personal charter system. After almost twenty years of debate on the pros and cons of nationalization, the government decided to retain the system of personal charters.

The same issue arose in the late 1960s. The number of pharmacies had increased substantially; however, most of the new pharmacies were in urban areas with good consumer potential while only a few were in rural zones with declining populations (Öberg, 2003). At the same time, a progressive fee system had introduced strong state control over both pharmacies and their earnings. The system provided employee pensions and support of less profitable pharmacies. Thus, although the pharmacies were still privately owned, the government closely regulated the pharmaceutical market. Faced with limited business opportunities, the association of pharmacy owners entered in negotiation with the government and all pharmacies were nationalized in 1971 through the establishment of the National Corporation of Swedish Pharmacies (Apoteket AB). Pharmacy owners became public employees. The government took full control of pharmaceutical sales since it was no longer concerned with the profitability of private pharmacies (Öberg, 2003). Cost-effectiveness increased because of the one-channel distribution system, and the number of pharmacies increased from 600 to 900 with new locations determined by public health rather than market considerations.

By 2000, Apoteket was the fourth largest pharmacy chain in Europe despite operating only within Sweden. The situation soon changed dramatically. In 2004, the CEO of a Stockholm company selling health foods carefully choreographed an infringement of the existing law. After placing a newspaper advertisement announcing that “A crime against the Medicine Act will be committed on Stureplan at 10 o'clock on Wednesday”, he started selling nicotine medicines to his customers. He argued it was not sensible that you could buy cigarettes but not nicotine

chewing gum in his shop. In an interview he added that his small company wanted “to start a pharmacy, because we are convinced that the monopoly of the Apoteket AB will vanish.” (DN.se, 2005).

The resulting court case questioned whether the Swedish regulations were in accordance with EU law. The court ruled that the monopoly was unlawful because it discriminated against products from other Member States (EU, 2005). Following the ruling, Apoteket was dismantled and many of its outlets were sold in clusters to equity firms or to an association of Swedish entrepreneurs. The newly formed Swedish Pharmacy Association hailed the reform as a victory for consumers because it “improved the quality of service to the customer” (Swedish Pharmacy Association, 2010: 2). Today more than 85% of the market is controlled by a few chains and equity firms, and Apoteket operates approximately 300 pharmacies to guarantee continuity of service in rural areas.

Analysis.

The USA and Sweden cases help to show a clearer pattern. As in the UK and Italy, we see the same logics being combined, separated and re-combined over time. In the USA and Sweden, the logics coexisted for long periods; but the fact they were uncontested did not mean that they had disappeared. Instead, different institutional logics remained active for long periods, fuelled by specific actors representing recognizable organized interests; alternative institutional logics were joined and re-joined repeatedly. For example, in the Swedish case public health interests and those of organized pharmacists created conflict that was addressed and resolved multiple times.

In the USA, as in the UK, organized pharmacists tried to prevent the emergence of corporate pharmacies, an organizational form that allowed professional and corporate logics to co-exist side by side. The effort was of a material nature (forming chains) and carried out by institutional actors (the pharmacist association) utilizing mostly discursive strategies and endorsing the power of the law. In both cases, however, the attempt failed as it was perceived (and constructed) as an attempt to limit the free market.

Overall, we see that the dynamics of logic interconnections (and re-connections) were similar across countries, but the logics made to co-exist were different. While almost the same rhetorical argument was used in all countries (defence of the profession, protection of consumer interest, preservation of public welfare), completely different solutions arose. This illustrates our earlier suggestion that particular types of effort are required to make conflicting logics co-exist, and the outcome cannot be considered in isolation from the polity environment in which the process takes place.

DISCUSSION

We examined historical changes in the ownership and control of community pharmacies in the UK, Italy, Sweden and the USA to shed light on what happens to institutional arrangements designed to resolve ongoing conflicts between competing logics. Our study is one of the first to combine a historical, international and comparative perspective. We advance our understanding of institutional complexity in three ways: 1) We show that multiple logics can co-exist in “uneasy truces” over extended periods of time, and suggest that this temporary form of compromise can be conceptualized as an “institutional knot” -- emphasizing that logics can be combined while remaining demonstrably separate; 2) We explain the durability of field level

“institutional knots” by nesting them in the dynamics at the inter-institutional societal level. 3) We highlight that managing institutional complexity agency at the field/societal interface is just as important as agency at the individual and organizational levels.

Look what’s back: reoccurrence and institutional complexity

Our first contribution stems from our finding that both conflicts and their solutions repeatedly reoccurred; similar conflicts were fought with similar arguments, despite decades having elapsed since the first occurrence, with solutions that resembled historical predecessors. Our study provides empirical evidence that institutional multiplicity can endure over a long period of time without logics becoming hybridized, blended or eliminated. While the different logics in our study were combined to constitute relatively stable institutional arrangements, they remained visibly different and recognizable. The uneasy and often conflictual co-existence of different logics in a condition of temporary truce did not result in their blending; the ongoing existence of conflict likely contributed to keeping the logics distinct. For example, notwithstanding the appearance of chain stores that embody the corporate logic, the logic of professionalism continued to orient the practice of pharmacists in all countries studied.

One way to conceptualize this state of affairs is to introduce the idea of an ‘institutional knot’. This term captures the idea that different threads comprising a knot can remain visible and recognizable over long periods of time without hybridization or dominance taking place. We define a “knot” as the institutional arrangements that allow different logics to co-exist at the field level in a provisionally durable state. For example, the 1880 agreement that a company could own a pharmacy as long as a ‘professional’ was present at all times represented a “knot,” tying together the professional, corporate, and market logics. A “knot” is more than a truce that

separates “dueling logics” (Battilana and Dorado, 2010: 1427), or contenders that ‘agree to disagree’ (Reay and Hinings, 2005; 2009). “Knots” are the outcome of “knotting” which involves the creating and stabilizing of institutional arrangements that involves agency and effort. Institutional “knot” and “knotting” also highlight our findings that institutional arrangements can be undone *and* redone. This is reflected in the reactivation of conflict (van Gestel and Hillenbrand, 2011) and also in the ability of the new arrangement to replicate past arrangements and restore past regimes. Italy is a case in point. As we showed, in Italy, professional, market and corporate logics were tied together in 1888 only to be untied 1910. In effect, the government restored the ancient regime.

While the metaphor of “knot” has some similarity to that of “constellations of logics” (Goodrick and Reay, 2011) and the idea of “critical junctures” (Hogan, 2006), we believe it represents a theoretical advancement. While both the metaphor of “knot” and “constellations of logics” capture a combination of logics (Goodrick and Reay, 2011), the noun knot also invokes the cognate notion of ‘knotting’ which introduces an element of agency and process into the static metaphor of constellation which only represents the state of co-existence. The idea of ‘critical junctures’ suggests that once an institutional option is selected, it becomes progressively more difficult to return to the initial point (Capoccia and Kelmen, 2007; Hogan, 2006). We suggest the concept of critical junctures should be expanded to include the possibility of institutional reversibility as shown in our findings. Critical junctures thus could be thought as particular times when the knotting is problematized and the arrangements confirmed or modified – their ‘criticality’ and path-dependent properties remaining an empirical question.

Explaining durability

We found that which knots are tied and which knots can be naturalized and made durable, is tightly connected to the inter-institutional system making up each polity. Thus, our study extends recent work by Besharov and Smith (2014) on contested multiplicity and Raynard and Greenwood (2014) on volatile complexity by addressing their call for more attention to the institutional landscape and its implications for organizational response. Our observation of different degrees of field-level institutional complexity in the same industry in different countries allows us to link complexity with the inter-institutional system in each society and in each historical era. Our study, therefore, complements Besharov and Smith's (2014) analysis by pushing our understanding about the drivers of variation in institutional complexity beyond the level of the field in two ways.

First, we show that the levels of volatility, contestation, and conflict differed both among countries and within countries in different historical eras. In the USA conflict emerged only in two periods (1927-1928 and 1963-1973) and cemented the preeminence of the logic 'couple' corporation-market over the profession and the state; however, in Italy conflict erupted in seven periods with radically changing frontlines (profession, state and corporation took the lead successively). The UK and Sweden sit in-between, with the UK following a path similar to that of the USA but with a higher involvement of the state and Sweden experiencing radical change twice (in 1970 and 2009). Second, our analysis suggests that whether different logics can co-exist and symbolically occupy the same "cultural space" (Thornton et al., 2012:63) is related to the specific discursive and material institutions embedded within each society at a particular point in history. Referring to Chandler's (1962) case studies on multi-divisionalization of

American corporations, Thornton (2002) observed that in the USA “markets embody logics that are complementary to corporation.” Similarly, in our USA case, the idea of free markets and property rights supported corporate chains in taking over the field and making pharmacy professionals employees. However, in our Swedish case, the logics of the market and the corporation were maintained separately until the EU imposed liberalization; the state logic was persistently a thread in the knot, tied variously with the market and professional logics in a coherent whole.

Our study suggests that complementarity among logics is rooted in societal level phenomena, and can be understood more fully in light of modern polity models. This approach extends concepts identified by Besharov and Smith (2014) in relationship to the field level. For example, Jepperson (2002) identified two dimensions of polities: *collective agency* (‘statist’=high versus ‘societal’=low) and *organization of society* (‘corporate’=high versus ‘associational’= low). High collective agency, at the level of the inter-institutional system, is similar to Besharov and Smith’s idea of low degree of simultaneous centrality of multiple logics at the field level: high collective agency implies state centrality in the polity while a low degree implies that one logic is core and others are peripheral. At the level of the inter-institutional system, high organization of society refers to the organization of interests to provide compatible and jurisdictionally non-overlapping prescriptions for action, similar to Besharov and Smith’s idea of high degree of compatibility at the field level.

Liberal polities such as the UK and the USA are low on both dimensions, i.e. collective agency is not organized around one central institution such as the state but is left to the free play of societal forces, while at the same time, interests compete since social order is not planned as

in a well-defined ‘corporate’ body. As shown in Figure 2³, the USA consistently occupies the same liberal position among modern polity models. The UK, although considered a paradigmatic case of liberal polity, differs from the USA because the state assumes a greater role – although this has changed in the past century, hence the line. In our study, at the US community pharmacy field level, the free play of social forces led to the domination of the market-corporate logics while the profession and the state were left with crumbs of power. In the UK, the advent of multiples (chains stores) was more disruptive than in the USA (see the dotted arrow in Figure 3) both because the pharmacy profession had a higher standing and centrality and because the state intervened in a more confrontational way.

Nordic social-corporate polities such as Sweden, in contrast, leave collective agency to the free play of social forces but are geared towards a corporatist approach that delimits the influence of society – Sweden has the highest score for ‘neocorporatism’ according to Hicks and Kenworthy (1998). In this model, the state assumes the role of an arena available for coordinated collective agency rather than a ‘statist’ actor centralizing coordination in its bureaucracy (Evans et al., 1985). Figure 2 shows the position of Sweden among modern polities, accounting for the rather recent change of its integration in the EU. In the Swedish pharmacy case, because collective agency was located in society, professionals freely chose the state as the most appropriate institutional arrangement for their endeavor, enacting the typical social-corporate Nordic model. The role of the EU was critical to break such a tightly knit arrangement of national societal forces. It did so by imposing the more liberal order of its multilateral constitution—a move that in Figure 3 shows the field abandoning the corporate state guaranteed

³ The figure is based on Jepperson (2002) with the axis changed to facilitate comparison to Figure 1 in Besharov and Smith’s (2014: 371).

consensus. Italy, as a polity, according to Jepperson (2000: 31), presents a statist aspiration, but in practice society has “colonized a weak state apparatus” akin to an “archipelago of loosely connected institutions.” Italy, accordingly, lies in the middle of the corporatist continuum (Vasudeva et al., 2013). As a ‘weak state’ (Ranci, 1987), Italy has had many competing paths and an incoherent polity characterized, in the language of Whitley (2000), by varied business systems from fragmented, to locally family-community coordinated and to state organized—a condition of polity-instability represented in Figure 2 with a ‘wobbling’ arrow. With respect to pharmacy, such incoherent polity formation led to a jurisdictional overlap among societal orders and a weakness towards external influences by powerful nations, leading to instability in the pharmacy field. The dotted line in Figure 3 represents the Italian pharmacy field starting at a point similar to Sweden with the profession dominating, moving towards the abrupt introduction of the corporate and market logics, followed by the restoration of the previous order and recent efforts by the EU to introduce market-like elements despite the continuous preeminence of the state-backed profession.

[Figure 2 and 3 about here]

Our data, therefore, suggest that the durability of knots in each polity was related to the relationship between institutional orders transcending field boundaries. The strength of certain institutional orders (Friedland and Alford, 1991) was translated at the field level and actively used to uphold or problematize existing arrangements. The inter-institutional system seemed to create enabling and constraining conditions favouring one result over another—a corridor of possibilities within which knotting activity can unfold. This occurred in the UK, where the

prevailing liberalist orientations played out locally, preventing the knot between corporate and professional logics being undone. Thus, our findings are consistent with sociological approaches that explain the stability and durability of social arrangements in terms of interplay between local and global phenomena through processes of anchoring (Swidler, 2001), and embeddedding (Granovetter, 1985). Our study adds an interesting and counterintuitive slant to these concepts. Contrary to the view that the more balanced the forces are in society, the more stable relationships among contenders will be at the field level, we find the opposite: the more unbalanced logics are at societal level, the less field level knots are contested. We observed that when a logic at the societal level was inscribed in a more influential institutional order (i.e. when the relationship of the societal logics under tension is unbalanced) then the field-level knot is more durable—because a field-level logic derives strength from its dominant position in the inter-institutional societal field (e.g., the market logic in the USA). When incompatible societal logics are more balanced, the knot at the field level is less durable and more often contested. In other words, the less one path dominates in society (Schneiberg, 2007), the more knotting events occur at field level.

The result of balanced incompatible societal logics can be conceptualized in terms of “crises waiting to happen”. We argue under such circumstances the underlying tension between logics at the field level is not resolved through knotting but rather is only temporarily appeased. The underlying tension creates potential institutional faults that traverse the field and meet at particular hotspots. Like geological faults, these latent conflicts remain dormant until they become active again, giving rise to new controversy around certain specific issues. Although when such crises will occur and how they will be resolved is difficult to predict, we can suggest where institutional conflicts are likely to reoccur by examining societal level complexity among

institutional orders. For example, in countries such as Italy and many others sharing the ‘Mediterranean Model’, where pharmacy chains are not allowed, we expect the ownership of pharmacies will continue to be a salient issue given the continuing transposition of liberal ideas institutionalized in the world polity (Drori et al., 2006; Delmestri, 2009).

A renewed focus on agency

Our study and the metaphor of knotting extends a concept developed at a more micro level by Lindberg and Czarniawska (2006) to the institutional level; it also foregrounds the dimension of agency that is required for the combination of logics at the field level. By emphasizing agency, we respond to the concern that “despite recognition that institutional complexity can arise in – and from – everyday practice, [the] suggested responses to such permanent complexity are largely structural” (Smets and Jarzabkowski, 2013). We show that the establishment, contestation and defense of institutional knots stem from identifiable and localized social and material processes and events, implying institutional work (Lawrence and Suddaby, 2006). The work of knotting and unknotting logics together is empirically accessible. For example, almost all the events described above unfold in the forums of courts, parliaments and assemblies. Here specific individuals speak on behalf of “macro actors” such as the Pharmacy association or the EU. Our study demonstrates that large scale phenomena such as making logics coexist at the field level can be examined empirically if we focus on the appropriate forums.

Our study also provides a glimpse of the mechanisms underlying the stabilization and contestation of institutional knots. We observed that institutional knots were stabilized and defended against attempts to untie them through discursive and material means. Similar to

scholars focusing on the discursive dynamics associated with institutional change (e.g., Maguire and Hardy, 2009; Brown et al., 2012) we found that discursive activities were featured centrally in both knotting and unknotting events. For example, knotting was often pursued through the circulation of texts and discourses that avowed the benefit and value of the new arrangements, making the new institutional arrangement appear coherent and rational. Unknotting, on the other hand, implies problematizing the discursive foundations that support a particular arrangement by highlighting negative, undesirable, or inappropriate consequences (Maguire and Hardy, 2009). In our cases, the most common strategy used by professional pharmacists was to first prevent, and later undo the knotting of different logics.

Consistent with recent work suggesting that material elements play a greater role in carrying logics than usually accepted (e.g., Jones et al., 2013; Lindberg and Walter, 2013), we found evidence that material practices supported continued distinction between the different logics even as they were knotted together. For example, in the UK, the law established that a licensed pharmacist must be present in the pharmacy at all times – a material way to ensure that the professional and market logics are tightly knit. In all countries, the spaces where practices belonging to different logics were carried out were clearly separated: the pharmacist stays ‘behind the counter’ where the ‘real medicines’ are, while the rest of the merchandise stays at the front of the shop.

CONCLUSIONS

Our study suggests that shedding light on how institutional complexity is addressed and temporarily resolved requires a focus on more than one level or polity. Consideration must be given to actions and events at the organizational and field levels and at the interface between

field and broader polity (Vasudeva et. al., 2013). By examining this interface, our study identifies a relationship between the type of equilibrium existing between institutional orders at the level of societies, and the durability of ‘knotted’ arrangements at the field level. Our findings suggest that institutional complexity should be studied not only at the organisational level (by examining events at the interface of organizations and the field) but also at the field level (how field-level arrangements are anchored to higher societal orders).

Our study opens interesting directions for future research. First, the idea that institutional pluralism is a nested phenomenon could be further refined to examine the dynamics between organizational, field, and societal levels. Second, researchers could build on the metaphor of ‘knot’ to examine the dynamics and conditions of the durability of these arrangements, including the potential reversibility of institutional arrangements. We suggest that these images of knot, knotting and unknotting have considerable heuristic value that could be exploited further. Finally, we hope that other researchers will advance our ideas about boundary conditions at inter-institutional level and their effect on the ways that a knot is weaved at different points in time and across different polities.

Although to our knowledge this study is the first of its kind in adopting an historical and international comparative design that examines variation at the level of the inter-institutional system of society, it has a number of limitations. First, all four countries studied belong to the Western world, sharing the same medical and pharmaceutical traditions. A comparison with polities lying outside of this spectrum, e.g. China, could offer interesting insights. Second, the grand historical view of our study forced us to concentrate on the essential abstract features of critical events as related to each other, and less on the local details of institutional work performed by agentic individuals. A more micro-level analysis of knotting events may reveal

interesting processual aspects of knotting work. Third, the extent of competing logics in community pharmacy may not be generalizable to other fields, although we believe that findings would be similar in societal sectors such as health care or education. Community pharmacy has so far been understudied, despite its richness for researchers. We hope that others will further research in these regards.

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Table 1: Ideal Type of Institutional Logic and Associated Characteristics of Ownership and Control

Characteristics	Professional logic	Corporate Logic	Market logic	State logic
A. Ownership of a pharmacy	Ownership of pharmacies is restricted to pharmacists.	Pharmacies are owned by corporations (chains).	There are no restrictions on who can own a pharmacy.	Pharmacies are state owned.
B. Establishment of a pharmacy	Professional associations determine where pharmacies should be established.	The establishment of a pharmacy is determined by management	The establishment of a pharmacy reflects customer demand for services.	The state determines where pharmacies will be established.
C. Goods sold in a pharmacy	The type of goods sold in a pharmacy reflects the desire of professional association	The type of goods sold in a pharmacy reflects management decisions.	The type of goods sold in pharmacy reflects customer demands.	The state determines what good will be sold in a pharmacy.
D. Entry to pharmacy practice	The necessary credentials to practice pharmacy are determined by professional association.	Management determines the credentials necessary to practice pharmacy.	Any credentials to practice pharmacy reflect what customers demand.	The necessary credentials to practice pharmacy are determined by the state.

Table 2: Critical Events Related to Pharmacy Ownership in the UK

Year	Critical Event	Brief Description	Logics	Interpretation
1868	National Pharmacy Act	Ownership and sale of poisons (medications) were limited to registered pharmacists.	Professional Market	Law combined professional and market logics.
1880	House of Lords decision: London Provincial Supply Assoc. v. Pharmaceutical Society	House of Lords ruled that “a body corporate could keep an open shop... if qualified persons perform the sale” allowing a corporation to own a pharmacy.	Professional Market Corporate	Court decision separates professional qualifications from ownership, joining the corporate logic with professional and market.
1908	National Poisons and Pharmacy Act	Only registered individuals (not corporations) could use the title <i>pharmacist</i> . Corporations could use the term <i>Chemist & Druggist</i> if the business’ supervising pharmacist was on board of directors.	Professional Market Corporate	Law strengthened professional logic and interwove it with corporate by limiting ownership to corporations with a pharmacist on the board of directors.
1953	Court of Appeals: Pharmaceutical Society v. Boots	Court of Appeals decision on whether new self-service system in Boots (biggest chain in UK) violated the legal requirement that sale of pharmaceutical products must take place in presence of pharmacist. Court rules that contract of sale is at the cash register and thus the practice of self service does not violate the law.	Professional Market Corporate	Court decision weakened professional logic and strengthened corporate because profession no longer controlled sale of medications.
1968	House of Lord judicial decision: Dickson v. Pharmaceutical Society	House of Lords ruled against Pharmaceutical Society argument that new pharmacies only be allowed in separate buildings dedicated to professional and traditional goods. Court said: “public has interest in men being able to trade freely in the good which they judge the public wants”.	Professional Market Corporate	Court decision meant that professional society could not control what was sold in a pharmacy. Strengthened market logic within existing arrangement.
1986	National Health Service Act: Control of Entry	Regulation limits opening of a new pharmacy to where “necessary or desirable” to secure adequate provision of pharmaceutical services in the neighborhood, as judged by NHS.	Professional Market Corporate State	State regulations replace market considerations and corporate desire to determine establishment of pharmacies. State logic now part of arrangement.
2005	National Health Services (Pharmaceutical Regulations)	Revision of 1986 law on government control of location of new pharmacies. This regulation enacted in response to 2003 Office of Fair Trading report criticizing market constraints.	Professional Market Corporate State	Weakens state influence by reducing control over number and location of pharmacies. Strengthens market logic.

Table 3: Critical Events Related to Pharmacy Ownership in Italy

Year	Critical Event	Brief Description	Logics	Interpretation
1806	Napoleon's Regulation of Pharmacy	French law imposed to create Health Commission that controlled pharmacists' right to establish pharmacy, but no restriction on location of pharmacy. Only pharmacists with university degree can own a pharmacy. Sales restricted to items in official pharmacopeia.	Professional Market State	Foreign power asserts logic of state as public health assurer and joins state logic with the preexisting logics of profession, and market.
1865	Law 2148 on Public Health	Italian state (unified in 1861) unifies pharmacy regulation across the nation. New pharmacies are non-tradable individual right issued by state authorities and are restricted to pharmacists with a university degree. Medications only sold in pharmacies.	Professional Market State	Law strengthens state logic within existing arrangement and weakens market.
1888	Law 5849 Crispi/Pagliano on Public Health	Pharmacies are tradable goods distinct from dispensing which is restricted to pharmacists. Medications sold only in pharmacies. No restriction on number and location of pharmacies. Allows for the creation of chains.	Professional Market State	Law weakens state and professional logics and strengthens market by allowing for trade of pharmacies and non-pharmacist ownership.
1901	Communication to Prefectures of Minister of Int Affairs	Owners of pharmacies can sell other kinds of goods only if the premises are clearly distinct from those where medicines are sold.	Professional Market State	Strengthens professional and state logic in existing arrangement.
1910-1913	Institution of Professional Order and Law 468 (Giolitti)	Reverses 1888 regulations. Pharmacy establishment controlled by state in competitions for a charter which cannot be sold or inherited. Only pharmacists can compete. Existing tradable and inheritable pharmacies allowed to operate until 1933 (Fascism extends it to 1946 and the Liberation government to 1968).	Professional Market State	Law strengthens state logic and interweaves it with professional logic by regulating pharmacies and restricting ownership to pharmacists. Weakens market logic (allows for existing stores)
1968	Law 475 on the Pharmaceutical Service	Pharmacists are public officials who own the pharmacy. Can sell once during life time and spouse/children can inherit. Applies to existing pharmacies as well. Half of all new pharmacies must be assigned to private pharmacists through public competition regulated by state and universities. Remainder assigned to municipalities.	Professional Market State	Law reinforces both market logic (private ownership, inheritable property, can sell once) and state logic (municipalities can open pharmacies)
1991	Law 362 on the Pharmaceutical Service	Allows for limited companies constituted by pharmacists to own up to four pharmacies, provided that all pharmacists are members of Provincial Order (local register) where the pharmacies are located.	Professional Market State Corporate	Law adds a weak version of corporate logic to existing arrangement.
2006	Law Decree 223 (Bersani)	Creates new organizational form of "parafarmacia", a shop restricted to sale of OTC drugs, and allows opening of "corners" in supermarkets and shops, provided that a pharmacist is present.	Professional Market State Corporate	Law strengthens market logic and weakens state in existing arrangement by allowing specialized outlets for OTC medication.
2009	Law Decree 153	Increases number of public health services (e.g. pharmaceutical care) to be performed through pharmacies. Restricts the use of traditional green cross symbol to pharmacies ("parafarmacie" cannot use it)	Professional Market State Corporate	Law strengthens professional logic by recognizing the role of pharmacists, and strengthens state logic, by determining professional services to be performed by pharmacies as strongholds of the NHS

Table 4: Critical Events Related to Pharmacy Ownership in Sweden

Year	Critical Event	Brief Description	Logics	Interpretation
1683	First collective charter	King authorized first regulation specific to pharmacists. Pharmacists had exclusive right to sell drugs in specific area. State limited number of charters. Charters can be sold to other pharmacists. .	Professional Market State	Arrangement joins state, market and professional logics together.
1873	Restriction of sale of charters	Access to charters regulated through qualifications. Pharmacists had to have pharmacy degree and work for four years before applying for charter from state. Pharmacy charters can no longer be sold.	Professional Market State	Strengthens state influence in arrangement. Weakened market.
1930s	Profit regulation	State regulated profitability of pharmacies, although they continued to be privately owned.	Professional Market State	Strengthened state and weakened professional and market influence.
1971	Nationalization	Creation of state owned monopoly, Apoteket AB. Pharmacists are government employees. Location controlled by government. Sale of drugs restricted to pharmacies.	Professional State Corporate	Strengthened state influence and added corporate (Apoteket AB is incorporated) Eliminated market from arrangement.
2009	New Pharmacy Act	Private-owned pharmacies permitted, both individual and chain. Owners do not have to be pharmacists but pharmacist must be on duty. OTC drugs can be sold at other retail outlets. Supervision by government agency.	Professional State Market Corporate	Law adds market logic to arrangement and weakens state influence.

Table 5: Critical Events Related to Pharmacy Ownership in the USA

Year	Critical Event	Brief Description	Logics	Interpretation
1927	<i>Pennsylvania State Pharmacy Ownership Law</i>	State law aimed at expansion of chain drug stores. It restricted ownership of pharmacies to pharmacists. Required that all drug stores thereafter opened be owned either by registered pharmacists or a corporation in which all members are pharmacists.	Professional Market State	Asserts primacy of professional over market logic in service of public health.
1928	<i>Liggett v. Baldridge</i>	U.S. Supreme Court case which ruled on the constitutionality of the 1927 Pennsylvania State Law restricting ownership. Decision was that law was “unreasonable and unnecessary restriction upon private business.”	Professional Market	Eliminates the primacy of professional over market logic. Asserts primacy of market.
1963	<i>North Dakota State law</i>	North Dakota approves law that limits ownership and operation of pharmacies to licensed pharmacists or to corporations in which at least two pharmacists are directors.	Professional Market	Attempt to re-establish the primacy of professional with market logic
1973	<i>North Dakota State Board of Pharmacy v. Snyder’s Drug Stores, Inc.</i>	U.S. Supreme Court case which ruled on constitutionality of 1963 North Dakota Law stipulating that only pharmacies that are majority owned by a licensed pharmacists (or group of pharmacists) may be granted a permit to operate in state. Decision was to overturn 1928 Liggett v. Baldridge ruling .	Professional Market State	States allowed to determine balance between market and professional logics. Sanctions join market and professional logics.
2009	<i>North Dakota State law upheld</i>	Walgreens (large USA pharmacy chain) guides of chain retailers’ lobbying effort to repeal the pharmacy ownership law. Effort fails and existing law upheld. North Dakota is the only State in the USA without large pharmaceutical chains	Professional Market	Confirms existing arrangement against challenge and attempts to give market logic prominence over professional one

Critical events in deciding the ownership of pharmacies in the four countries

	1800	1850	1900	1950	2000				
UK			<div><div></div><div>1868 Owner must be registered Pharmacist</div></div> <div><div></div><div>1880 Chains permitted</div></div> <div><div></div><div>1908 Poison act (Multiples upheld)</div></div> <div><div></div><div>1953 Pharma. Society vs. Boots</div></div> <div><div></div><div>1968 Dickson judgement</div></div> <div><div></div><div>1986 Control on entry by limiting new contracts</div></div> <div><div></div><div>2005 NHS must approve transfer from independent to corporate owner</div></div>	ITALY	<div><div></div><div>1806 Freedom of establishment but within public health idea (in French dominions)</div></div> <div><div></div><div>1865 Personal non tradable license</div></div> <div><div></div><div>1888 Deregulation (Chains and tradable)</div></div> <div><div></div><div>1901 Distinction of trade space</div></div> <div><div></div><div>1910-3 Personal non tradable licence (return to)</div></div> <div><div></div><div>1968 Personal non tradable licence)</div></div> <div><div></div><div>1991 Professional partnerships allowed</div></div> <div><div></div><div>2006 New org. form: <i>parafarmacia</i>. Liberalization of OTCs</div></div> <div><div></div><div>2009 Activity of Parafarmacie restricted</div></div>	SWEDEN	<div><div></div><div>1683 State establishes and controls a restricted number of number of tradable pharmacy charters</div></div> <div><div></div><div>1873 Restriction of trade of personal charters</div></div> <div><div></div><div>1930 Profit regulation (pharmacies still private)</div></div> <div><div></div><div>1971 Nationalisation of all pharmacies (state owned chain)</div></div> <div><div></div><div>2009 End of state-owned monopoly. New organisational forms (e.g. private chains) Liberalization of OTCs and prescription drugs</div></div>	USA	<div><div></div><div>1922 First Restriction in NY (pharmacist owner only)</div></div> <div><div></div><div>1927 Further restriction in Penn</div></div> <div><div></div><div>1928 Restriction overturned</div></div> <div><div></div><div>1963 Restriction on ownership re-introduced in some states</div></div> <div><div></div><div>1973 Supreme Court confirms: State can restrict</div></div> <div><div></div><div>2009 North Dakota Law upheld (ignored in other states)</div></div>

Figure 1: Critical events in deciding the ownership of pharmacies in the four countries

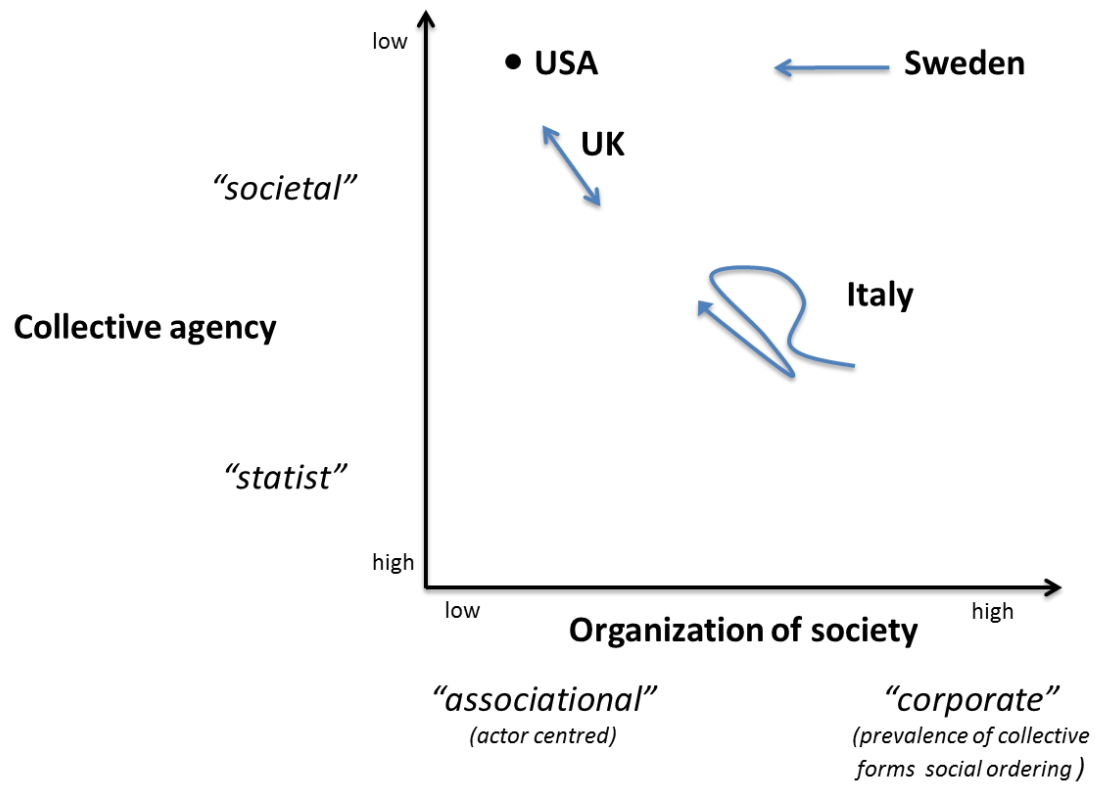


Figure 2: Polity models and their historical shift underpinning the pharmacy field level dynamics (1800-2010). Modified from Jepperson, 2000.

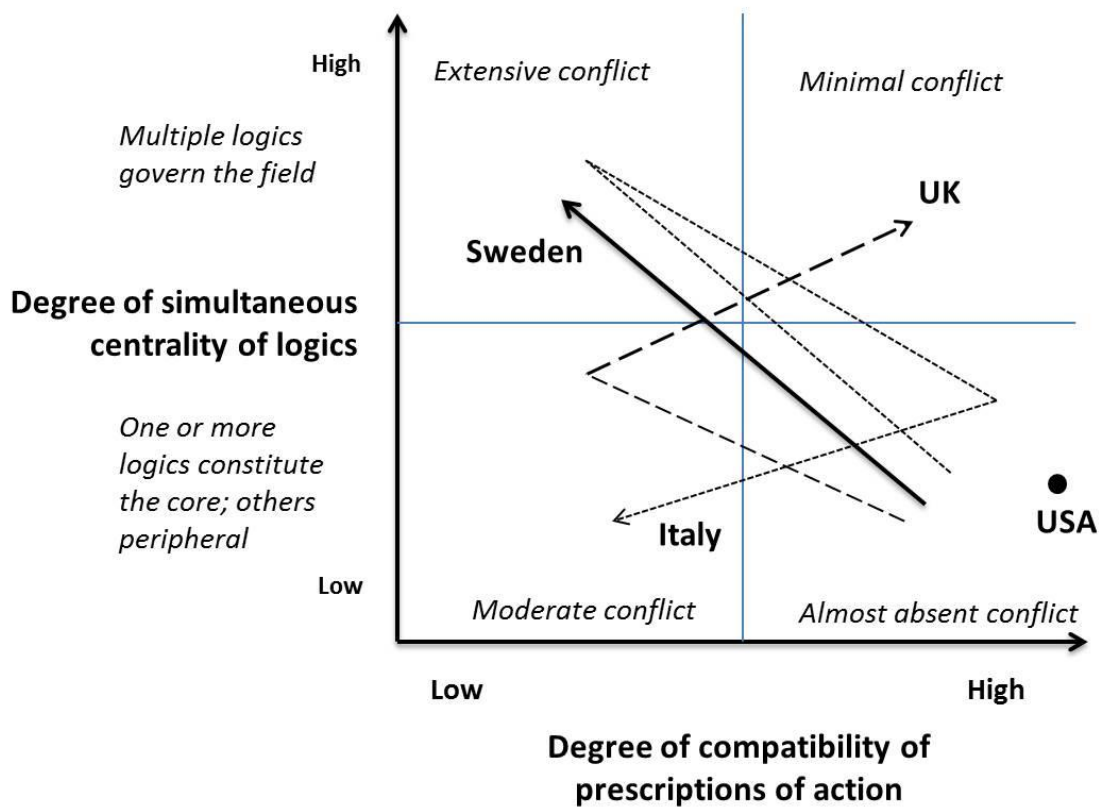


Figure 3: Field-level institutional complexity (1800-2010)

Authors' bio

Davide Nicolini is Professor of Organization Studies, as well as co-Director of the IKON research centre, both at Warwick Business School, University of Warwick. His current research focuses on the development of the practice-based approach and its application to phenomena such as knowing, collaboration, innovation and change in organizations.

Giuseppe Delmestri (Ph.D. Mannheim University) is Professor of Organization and Management Theory and Chair of the Institute of Change Management and Management Development at WU, Vienna University of Economics and Business, Austria. He held positions at Bocconi U., Bergamo U. and Johannes Kepler U. He studies market categorization, institutional complexity, branding, and ideology from new institutional and critical perspectives.

Elizabeth Goodrick (PhD University of Illinois at Urbana-Champaign) is an Associate Professor in the Health Administration Program at the Florida Atlantic University College of Business, USA. She studies health care professionals and organizations from a neo institutional perspective. Her work has appeared in both organizational and health care management journals including Journal of Management Studies, Administrative Science Quarterly, Work & Occupations, Research in the Sociology of Organizations, and Health Care Management Review.

Trish Reay is an Associate Professor in Strategic Management and Organization at the University of Alberta School of Business in Edmonton, Canada. Her research interests include organizational and institutional change, professions and professional identity, and qualitative research methods. She has studied these topics in health care settings and in family firms. Published articles from these research streams appear in international journals such as Academy of Management Journal, Organization Studies, Journal of Management Studies, Work and Occupations and others.

Kajsa Lindberg is an associate professor at the University of Gothenburg. Her research interests include different aspects of organizing: shaping and crossing boundaries, the ongoing construction of practices, and the role of materiality in such processes.

Petra Adolfsson (PhD, University of Gothenburg) is an Associate Professor in the Department of Business Administration at University of Gothenburg in Sweden. Dr Adolfsson's research focuses on change management, professions, sustainability and photographs as part of qualitative research. Her research has been published in Financial Accountability & Management.